SUBJECT INDEX

Vol. 128B, Nos. 1-4

 α -Amylase, 543 α -Linolenic acid, 123 α -Tocopherol, 285 β -Carotene, 743 β -carotene cleavage enzyme, 425 β -N-acetyl- $_d$ -glucosaminidase, 675 β -wing, 565 β 2-Glycoprotein I, 537 (2-hydroxyethyl) dimethylsulfoxonium chloride, 27 1400W, 247 2-Aminoethylphosphonic acid, 173 31P-NMR, 173 1-NAME, 247 1-thyroxine, 493

Abalone, 389 Acid-soluble collagen, 81 Acylase, 469 Adaptation, 597 Adenosine, 187 Adenovirus vector, 781 Adipose tissue, 63 Adrenal, 793 Adrenal lipids, 793 AFGP, 265 Alanine aminotransferase, 459 Alcian blue, 389 Alligator, 285 Alternative splicing, 145 Amidohydrolase, 469 Amino acid, 667 Aminopeptidase, 469 Aminopeptidase N, 459 Aminophosphonic acids, 173 Amphibian, 81 Anabas, 165 Anabas, 761 Anhydrobiosis, 613 Annual/seasonal variations, 793 Anoxybiosis, 613 Antarctic, 553 Antibodies, 451, 625 Antifreeze glycoproteins, 265 Antioxidant enzyme, 165 Ants, 575 Apolipoprotein, 781 Apolipoprotein H, 537 Apoptosis, 247, 635 Ascidian, 73, 295 Aspartic proteinase, 351 Asterina pectinifera, 565 Asterosaponins, 43

Bacterial expression, 565
Bax, 635
Bcl-2, 635
Biochemical adaptation, 613
Biosynthesis, 53, 445
Bird's plumage, 529
Bivalve, 767

ATP diphosphohydrolase, 731

Atlantic salmon, 401

ATP synthase, 325, 339

Australian fur seal, 307

ATP, 435

Bombyx mori, 145 Bone marrow, 63 Brain, 731 Bromocryptine, 761 Bugula neritina, 445

C-type lectin, 625

Ca²⁺ binding, 625

Caenorhabditis elegans, 701
Callinectes, 683
Callinectes sapidus, 691
Captivity, 529
Carbohydrate digestion, 109
Carboxypeptidase, 469
Carotenoid metabolism, 529
Carotenoid pattern, 529
Carotenoids, 743
Catalytic site, 339
Cathepsin D, 351
cDNA cloning, 73, 709
Cellular retinol-binding protein II, 425

Chain elongation, 11 Chanos chanos, 501 Characteristics, 11 Characterization, 351 Charge isomer, 751 Chemical structure, 307 Chick, 135, 425, 743 Chicken, 731 Chicken liver, 205 Chitin, 675 Chitinase, 675 Cholesterol esters, 719 Chromatography, 19 Chymotrypsin, 365 Cladolabes bifurcatus, 53 Clio pyramidata, 553 Clione limacina, 553

Cofactors, 11 Coho salmon (*Oncorhynchus kisutch*), 255 Cold, 63 Colour, 529

Common carp, 483 Computer assisted semen analysis, 537 Conchiolin, 389 Coot, 743 Corticosterone, 793

Cortisol, 597 CPP-32, 635 Crassostrea gigas, 459 Crayfish, 325, 339 Cross-reactivity, 625 Crustacea, 233, 379

Cu, Zn-superoxide dismutase, 751 *Cucumaria* sp., 53

Cuticle, 379, 691
Cuticular hydrocarbons, 575, 647
Cuticular wax esters, 575
Cyclodextrin, 543
Cyclosporin A, 31
Cystophora cristata, 307
Cytochromes, 213

Deacetylase, 469

Cytotoxic, 27

Deformed fish, 91 Deiodinase, 413 Deiodination, 413 Dermatan sulfate, 221 Desuccinylase, 469 Detoxification, 701 Development, 135, 425 Diacylglyceryl ethers, 553 Dietary carbohydrates, 275 Digestion, 543 Diiodothyronine, 165 Dipeptidase, 469 Distribution, 43 DM domain, 145 Docosahexaenoic acid, 123 Dog lipoproteins, 719 Dogger Bank Itch, 27 Doublesex, 145 Drosophila melanogaster, 145 DSC: Differential scanning calorimetry, 295

Ecdysis, 683 Egg yolk, 743 Eicosapentaenoic acid, 123 Embryo, 135 Emersion, 435 Environment, 597 Enzyme, 445 Enzyme activity, 99 Enzyme kinetics, 325, 339 EPAS1, 187 EPC cells, 483 Epitopes, 625 Eri-silkworm, 709 Erythroblasts, 213 Estradiol, 793 Euphausiacea, 233 European eel, 11 Evolution, 451, 517 Exoskeleton, 379, 683 Extracellular matrix, 507

F1-ATPase, 325 F₁-ATPase, 339 Fascia lata, 221 Fatty acid, 445, 661 Fatty acid composition, 91 Fatty acid synthase, 445 Fatty acids, 11, 63, 285, 553 Fertilization process, 537 Fibril formation, 81 Fish, 165, 351, 413, 731 Fish nutrition, 275 Fluidity, 63, 661 Follicular fluid, 537 Free amino acids, 501 Free sterols, 43, 53 Freeze resistance, 401 Freshwater eel, 493 Frog, 517

G6PDH, 761 Gadus ogac, 265 Galactolipids, 109

Subject Index

Gastric digestion, 675 Gelatinase, 507 Gene cloning, 483 Gene expression, 187, 401, 459, 597 Gene regulation, 597 Genome verified, 701 Gills, 325, 339 GIP, 517 GLP-1, 517 GLP-2, 517 Glucagon, 517 Glucagon receptor, 517 Glucokinase 275 Glucose metabolism, 275, 483 Glucose transporter, 483 Glucose-6-phosphatase, 275 Glutathione S-transferase, 701 Glycemia, 275 Glycerol, 401 Glycerol-3-phosphate dehydrogenase, 401 Glycine, 501 Glycolysis, 435 Glycoproteins, 389, 683 Glycosidase, 683 Glycoside digestion, 109 Glycosides of polyhydroxysteroids, 43 Glycosylation, 351 Gnathostome, 159 Gonads, 793 GRE, 597 Group I, 565

Haemolymph, 767 Halocynthia aurantium, 73 Hatchery, 719 HDL metabolism, 781 Helicoverpa zea, 647 Heligmosomoides polygyrus, 701 Heliothis virescens, 365 Heliothis virescens, 647 Hemocyte, 507 Hemolymph, 507 Hepato-pancreas, 751 Histidine, 501 Holothurioidea, 53 Homology modelling, 701 Hooded seal, 307 Hormones, 285 HPLC chromatography, 537 Hydrothermal vents, 173 Hyperlipidemia, 285 Hypothermic protection, 265

Growth, 255

Gull, 743

Growth hormone, 761

Growth hormone (GH), 255

ICDH, 761 In vitro, 123 In vitro fertilization, 537 Inhibition, 19 Inhibition effect, 205 Inhibitor, 19 Insect, 379 Insect adaptation, 365 Insect cell line (IPLB-LdFB, 247 Insect immunity, 709 Insect resistance, 365 Insulin-like growth factor-I (IGF-I), 255 Insulinemia, 275 Internal hydrocarbons, 647 Intestine, 425 Involution, 635 Ionic strength activity, 205 Iron binding, 73 Isoenzymes, 233 Isolation, 73 Isozymes, 233

J774A.1, 123 Japanese flounder, 751 Kinetics, 483, 543 Krill, 233

Lactate dehydrogenase, 233

Lactation, 667 Lamprey, 159 LC/MS analysis, 529 LC/UV-vis analysis, 529 LDL, 719 Lepidoptera, 647 Linoleic acid, 123 Lipid, 123 Lipid metabolism, 761 Lipid oxidation, 91 Lipid peroxidation, 165 Lipids, 11, 553 Lipoprotein, 781 Liposomes, 265 Liver, 11, 425 Lizard, 675 Lizard fish, 19 Lobster, 743

Lysozyme, 709

Macrophage, 123 Mammary gland, 635, 667 Marine, 445 Mass spectrometry, 575 ME, 761 Melatonin, 793 Melibiase, 109 Membrane, 661 Metabolic rate depression, 613 Metabolism, 53 Metabolite, 435 Metalloexopeptidase, 469 Metalloproteinase, 507 Metaloenzyme, 205 Methyl-branched hydrocarbons, 575, 647 Midgut proteinases, 365 Milk, 307, 667 Milkfish, 501 Mitochondria, 11, 31, 213, 325, 339 Mitochondrial membrane, 31 Mitogen-activated protein kinase (MAPK, 187 Molecular chaperone, 613 Molecular properties, 751 Molecular weight, 265 Molting, 683 Monoclonal, 625 Moorhen, 743

Mussels, 173 Myofibril-bound, 19 Myofibrils, 351 Mytilus galloprovincialis Lam, 507 N-Acetyl-β-_d-hexosaminidase, 247 N-Acetylhexosaminidase; Callinectes, 683 N-Methyl-2-aminoethylphosphonic acid, 173 N-terminal sequence, 351 Nacre, 389

NAD(H), 99 NADP(H), 99 Nematode, 701 Neonate, 667 Niacin deficiency, 99 Nitric oxide, 247 NO synthase, 247 Non-catalytic site, 339 NTPDase, 731 Nutrition, 255, 543

Muscle, 159

Mussel, 507, 767

OD1 domain, 145 OD2 domain, 145 Oligosaccharides, 307 One-lobed transferrin, 73 Oreochromis niloticus, 543 Osmerus mordax, 401 Otariidae, 307 Oxidative stress, 31 Oyster, 389

p26, 613 p38, 187 Patiria (= Asterina) pectinifera, 43 PC12 cells; Mitogen-activated protein kinase (MAPK), 187 Penaeus, 379 Pepsin-soluble collagen, 81 Peptidoglycan, 709 Perchloric acid-soluble protein, 31 Perna canaliculus, 767 Pernin, 767 pH activity, 205 pH stability, 205 Phase transition, 265, 295 Pheochromocytoma, 187 Phocidae, 307 Phosphagen, 565 Phospholipid, 493 Phospholipid membrane, 265 Phospholipids, 295, 719 Phylogeny, 159, 517 Physiological function, 109 Pineal, 793 Plasma, 73 Plasma lipids, 285 PLTP, 781 Pogonomyrmex barbatus, 575 Polarizing microscopy, 295 Polyhydroxysteroids, 43 Polymorphism, 233 Polyunsaturated fatty acid, 91 Polyunsaturated fatty acids, 123, 719 Prawn, 379

Subject Index

Prolactin, 761
Properties, 233
Prostasomes, 767
Protein C, 469
Protein stability, 99
Protein turnover, 459
Proteinase inhibitors, 365
Proteins, 389
Proteome, 701

Proximate composition, 501

Pteropods, 553 Pupae, 647

Purification, 19, 159, 205, 233, 351

Pyridine nucleotides, 31 Pyrrhula pyrrhula, 529 Pyruvate kinase, 159

Quail, 99

Raffinase, 109
Rainbow smelt, 401
Rainbow trout, 275
Rana tigerina, 81
Rat, 81
Red drum, 413
Red harvester ant, 575
Red pigmented Cardina

Red pigmented *Carduelinae*, 529 Red-blood cells, 213

Redispersion, 81 Redissolution, 81 Regulatory sequence, 597 Reindeer, 63 Repeat, 379 Reproduction, 285

Reptile, 675 Respiratory chain, 213 Retinal reductase, 425

Retinol, 285

Retinol dehydrogenase, 425 Reverse cholesterol transport, 781

Salmo salar, 401 Samia cynthia ricini, 709 Sarotherodon melanotheron, 543

Saturated fatty acid, 221 Sceloporus, 675 SDS-PAGE, 99 Sea anemones, 173 Sea cucumbers, 53

Semen, 661

Sequence alignments, 469

Sequencing, 751 Serine proteinase, 19 Serum protein, 625 Sex determination, 145 Signal transduction, 187 Skin collagen, 81

Small heat shock/α-crystallin protein, 613

SMP, 325

Sodium nitroprusside, 247 Somatotrophic, 255 Sow, 635, 667 Sperm histones, 451 Sperm motility, 537 Sponge, 27 Stains-all, 389

Stallion, 661 Starch, 543 Starfish, 43, 565 Starvation, 501 Sterols, 553 Stress, 597

Submitochondrial particles, 325 Substrate preference, 351 Substrate specificity, 565 Substrate specifities, 109 Superoxide dismutase, 205, 767

Surface loop, 565 Synapta maculata, 53 Synaptosomes, 731

Tandem, 379
Taurine, 501, 667
Teleost, 165, 761
Teleost fish, 265
Temperature, 401

Terapon jarbua, 91 Testosterone, 793 TGF-β1; CPP-32, 27 Thermal hysteresis, 265 Thermal stability, 205 Thermal stress, 91 Thermoadaptation, 295 Thermostability, 751 Thornfish, 91 Thyroid, 165

Thyroid hormones, 413 Thyroxine, 413 Tilapia, 543 Time course, 255 Tissues, 743 Torpedo, 213

Transcript, 459 Transcription, 187 Transcription factor, 145

Transferrin, 73 Transport, 667 Trehalose, 613 Triacylglycerols, 719 Triiodothyronine, 165, 413 Trypsin, 19, 365

Trypsin digestion, 99 Trypsin oligomerization, 365 Tubeworm, 173

Tumour marker, 625 Undernutrition, 63

Vertabrate, 159 Vesicles, 661 Vitamin C, 91 Vitrification, 613 VLDL, 719

Ungulates, 63

Water replacement hypothesis, 613 WEHI-3, 123 Western blotting, 675

Zymography, 507

AUTHOR INDEX

Vol. 128B, Nos. 1-4

Abdul Malak, N., 493 Abe, Y., 73 Aguirre, P., 275 Aleporou-Marinou, V., 537 Arai, I., 307 Arienti, G., 661 Arita, M., 307 Arnould, J.P.Y., 307 Aveldaño, M.I., 719

Bédouet, L., 389 Babu, M., 81 Babu, U.S., 123 Baldwin, J., 435 Balz, D., 731 Banoub, J., 265 Barbieri, D., 247 Barrett, J., 701 Beckman, B.R., 255 Beitner-Johnson, D., 187 Biagini, A., 469 Blount, J.D., 743 Bodennec, J., 493 Bortolotti, G.R., 743 Brèque, J., 275 Brichon, G., 493 Brito, L.O., 365 Brophy, P.M., 701 Brunner, M., 31 Bryson, J.M., 667 Bustos, P., 451 Butler, K.D., 691

Campbell, A.M., 701
Canesi, L., 507
Cao, M.-J., 19
Capilla, E., 275
Caputi Jambrenghi, A.M., 11
Carlini, E., 661
Celentano, G., 529
Chien, L.-T., 91
Chiou, T.-K., 501
Christiansen, M., 625
Clegg, J.S., 613
Conforti, L., 187
Conrad, P.W., 187
Cooper, R.L., 377

De Cosmo, A., 661 De Nitto, E., 213 Dearing, S.C., 767 Desseaux, V., 543 Dickhoff, W.W., 255 Donald, K.M., 459 Driedzic, W.R., 401

Eales, J.G., 413 Ehnholm, C., 781 Elsey, R.M., 285

Fatland, C.L., 575 Fawcett, J.D., 675 Fletcher, G.L., 265 Franchini, A., 247 Frappart, P.O., 275 Fujimoto, S., 709 Fukuyama, T., 27 Fusetani, N., 27

Głowacki, A., 221 Gajkowska, B., 635 Gallo, G., 507 Gazzanelli, G., 507 Giraud, M., 389 Giudetti, A.M., 11 Gnoni, G.V., 11 Goda, T., 425 Goddard, S.V., 265 Gordon, D.M., 575 Gorshkova, I.A., 43 Greenwood, D.R., 767 Grossmann, G.A., 109 Gutierrez, J., 275

Halbrook, K.E., 683 Haldar, C., 793 Hara, K., 19, 751 Hasunuma, Y., 73 Havekes, L., 781 Hawkins, A.J.S., 459 Hayashi, K., 565 Hurley, W.L., 667 Hwang, D.-F., 91

Ikeya, T., 379 Imamura, K., 159 Imschenetzky, M., 451 Irwin, D.M., 517 Ishihara, T., 19, 751 Ivanchina, N.V., 43

Jaari, S., 781 Jackson, S.C., 667 Jaliashvili, I., 625 Jauhiainen, M., 781 Jefferies, J.R., 701 José Schuller, M., 389

Kalinovsky, A.I., 53 Kan, T., 27 Kanehira, C., 159 Kaneki, K., 135 Kao, M.H., 265 Kaushik, S., 275 Kerr, R.G., 445 Kicha, A.A., 43 Kim, H.-W., 187 Kim, R.H., 187 Kishi, K., 135 Kishimoto, K., 709 Kishimura, H., 565 Koźma, E.Maria., 221 Kobayashi, S., 187 Koh, Y.Hyun., 99 Kono, M., 379 Kostetsky, E.Y., 295 Koukiekolo, R., 543 Kovacs, K.M., 307 Krasnov, A., 483

Lance, V.A., 285 Larsen, D.A., 255 Leena, S., 761 Li, Z., 325, 339 Likhatskaya, G.N., 43 Lomneth, R.B., 675 Lopes, A.R., 365 Lopez, E., 389 Lund, E.D., 285 Lydersen, C., 307

Mölsä, H., 483 MacKenzie, D.S., 413 Malagoli, D., 247 Maldonado, E.N., 719 Mannello, F., 507 Marchis-Mouren, G., 543 Marin, F., 389 Marsh, R.S., 675 Masuda, Y., 751 Matsumoto, M., 135 Matsunaga, S., 27 Metso, J., 781 Milet, C., 389 Millhorn, D.E., 187 Mita, K., 145 Moe, C., 675 Moeslinger, T., 31 Moiseenko, O.P., 53 Mooney, B.D., 553 Moore VanPutte, C.L., 413 Moreau, Y., 543 Morici, L.A., 285 Morin, V., 451 Morishima, I., 709 Morsch, V.Maria., 731 Motyl, T., 635 Mulkiewicz, E., 233

Nagata, R., 73 Nakamura, T., 307 Nakao, Y., 27 Natori, Y., 135 Neckameyer, W.S., 377 Nelson, D.R., 575, 647 Nelson, L.J., 575 Nelson, M.M., 553 Neufeld, G.J., 325, 339 Newcomb, R.D., 767 Nichols, P.D., 553 Nielsen, H.Hauch., 351 Nielsen, L.B., 351 Nieminen, M., 63 Nishikawa, A., 159 Nishita, K., 565 Nordin, H., 135

O'Donnell, M.W., 123 Ochoa, B., 719 Ohbayashi, F., 145 Ojima, T., 565 Oka, T., 135 Okano, K., 145 Olczyk, K., 221

Author Index

Olkkonen, V.M., 781 Oommen, O.V., 165, 761 Osatomi, K., 19, 751 Ottaviani, E., 247 Öztürk-Ürek, R., 205

Płoszaj, T., 635 Palmerini, C.A., 661 Panserat, S., 275 Papa, F., 213 Papa, S., 213 Pappa, H., 537 Park, I.Kook., 99 Parra, J.Roberto.P., 365 Patargias, T., 537 Persson, P., 379 Phleger, C.F., 553 Pica, A., 213 Pierce, A.L., 255 Pierce, D.C., 691 Pini, E., 529 Pitkänen, T.I., 483 Place, A., 675 Place, A.R., 285 Plagnes-Juan, E., 275 Polci, A., 661 Pong, Y.-J., 501 Ponomarenko, L.P., 43, 53 Portoukalian, J., 493 Puchi, M., 451 Puigserver, A., 469 Purna Sai, K., 81

Quin, G.S., 173 Quin, L.D., 173

Ragni, M., 11 Rekiel, A., 635 Reyes, E., 451 Richards, R.C., 401 Roer, R.D., 683, 691 Romero, J.R., 719 Rust, R.T., 187

Saccardi, C., 661 Saito, T., 307 Sanina, N.M., 295 Santimone, M., 543 Scacco, S., 213 Schetinger, M.Rosa.C., 731 Schulte, P.M., 597 Schwager, S., 451 Scotti, P.D., 767 Senthilkumaran, B., 793 Seta, K., 187 Shafer, T.H., 683 Shameena, B., 165, 761 Shearer, K.D., 255 Shiau, C.-Y., 501 Shimada, T., 145 Siculella, L., 11 Silva-Filho, M.C., 365 Sivarajah, P., 517 Skorkowski, E.F., 233 Smerdon, G.R., 459 Soppela, P., 63 Sparks, N.H.C., 743 Speake, B.K., 743 Speed, S.R., 435 Spieckermann, P.Gerhard., 31 Stonik, V.A., 43, 53 Strömberg, J.-O., 233 Stradi, R., 529 Strawn, J.R., 377 Sudhakumari, C.C., 793 Surai, P.F., 743 Suzuki, K., 135

Tajima, S., 425

Suzuki, M.G., 145

Takase, S., 425
Tarhan, L., 205
Teerijoki, H., 483
Teesdale-Spittle, P.H., 701
Terra, W.R., 109, 365
Thougaard, A.V., 625
Tin, Y.-Y., 501
Tissot, M., 575
Toshimori-Tsuda, I., 709

Urashima, T., 307

Vachot, C., 275 van der Zee, A., 781 van Dijk, K.Willaims., 781 Vanya Ewart, K., 401 Varghese, S., 165 Vieira, V.Lucia.P., 731 Vonghia, G., 11

Wang, H., 667 Warabi, K., 27 Waręski, P., 635 Watanabe, T., 379 Wells, R.M.G., 435 Wen, J., 445 Wheeler, M.B., 517 Wiesenfeld, P.W., 123 Wojewódzka, U., 635 Wong, R.J., 435 Wood, N.A.R., 743 Wu, Y., 265

Yalouris, P., 537 Yamano, Y., 709 Yokosawa, H., 73 Yokoshima, S., 27 Yoshida, M., 307 Yuan, Y., 187

Ziętara, M.S., 233 Zwingelstein, G., 493

